

Septic Shock

Standard Orders for Adult ICU Patients (older than 16 years)

**Initiating this order sheet indicates the patient is in septic shock.
All of the following criteria must be met for diagnosis of septic shock.**

Criteria for Septic Shock (please check all that apply. All elements required for septic shock diagnosis):

1. ☐ Documented or suspected infection specify suspected site(s).

 2. ☐ Persistent/recurrent hypotension (not resolved with 500 mL saline or equivalent over 15 - 30 min).
Time/date first documentation of hypotension _____
 3. ☐ No clear alternate explanation for hypotension. Hypotension is a systolic blood pressure less than or equal to 90 mmHg, a mean arterial pressure (MAP) less than or equal to 70, or a drop in systolic blood pressure of 40 mmHg.
- Broad spectrum antimicrobial therapy must be started within 30 minutes of the onset of hypotension (or diagnosis of septic shock). Required cultures should always be drawn before antimicrobial administration. However, antimicrobial administration is the priority: therefore inability to obtain cultures must not delay antimicrobial (i.e. antibiotic) therapy.
 - Broad spectrum therapy should be closely assessed for de-escalation no later than 48 - 72 hours after initiation, assuming isolation of a pathogen or clinical improvement.
 - For serious penicillin/cephalosporin allergies (anaphylaxis, urticaria, angioneurotic edema), substitute Levofloxacin, Vancomycin, and either Clindamycin or MetroNIDAZOLE.
 - Nosocomial septic shock in patients who have had prolonged courses of therapy with Piperacillin/Tazobactam should be treated with Meropenem in place of Piperacillin/Tazobactam in the initial empiric regimen.

The Bundle of Interventions for Initial Treatment of Septic Shock includes:

- Serum Lactate Measured
- Blood Cultures Obtained Prior to Antibiotic Administration
- Broad-Spectrum Antibiotics within one hour
- Treat Hypotension and/or Elevated Lactate with Fluids
- Use Vasopressors for Ongoing Hypotension
- Maintain Adequate Central Venous Pressure
- Maintain Adequate Central Venous Oxygen Saturation

ABBREVIATIONS

ABG	- Arterial Blood Gas	MAP	- Mean Arterial Pressure
ALT	- Alanine Transaminase	mcg	- Micrograms
AST	- Aspartate Transaminase	mg	- Milligrams
BP	- Blood Pressure	min	- Minutes
C & S	- Culture and Sensitivity	mL	- Millilitres
CBC	- Complete Blood Count	mmHg	- Millimeters of Mercury
CK	- Creatinine Kinase	MRSA	- Methicillin-resistant Staphylococcus aureus
CrCl	- Creatinine Clearance	NS	- Normal Saline
CVP	- Central Venous Pressure	q ___ h	- Every ___ hours
ETT	- Endotracheal Tube	PTT	- Partial Thromboplastin Time
g	- Grams	SBP	- Systolic Blood Pressure
ICU	- Intensive Care Unit	µmol	- Micromoles
INR	- International Normalized Ratio		
IV	- Intravenous		
kg	- Kilograms		
LDH	- Lactate Dehydrogenase		

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These orders are to be used as a guideline to support clinical judgement and professional practice standards. Drug allergies and contraindications must be considered when initiating these orders. ☒ Orders are automatically activated. If not in agreement, cross out and Initial. ☐ Orders are activated if checked. See reverse for important considerations.

<p>DRUG ALLERGIES:</p>	<p>Weight: _____ Height: _____</p>																												
<p align="center">MEDICATION ORDERS</p> <p><input type="checkbox"/> Piperacillin/Tazobactam 4.5 g IV STAT x 1 dose now (within 30 min of order). Then, Piperacillin/Tazobactam _____ g IV Q _____ H for 24 hours, then reassess. Usual Dose for septic shock patients: For CrCl greater than 40 mL/min: 4.5 g IV Q6H For CrCl 20 - 40 mL/min: 3.375 g IV Q6H For CrCl less than 20 mL/min: 2.25 g IV Q6H Recommended for all septic shock patients unless serious allergy to penicillins or cephalosporins;</p> <ul style="list-style-type: none"> • Consider addition of Levofloxacin if: <ul style="list-style-type: none"> • Serum Creatinine greater than 240 µmol/L; OR • Pneumonia is most likely source of sepsis <p><input type="checkbox"/> Levofloxacin 750 mg IV x 1 dose STAT OR</p> <ul style="list-style-type: none"> • Consider addition of Tobramycin if: <ul style="list-style-type: none"> • Serum Creatinine less than 240 µmol/L; and • Pneumonia NOT likely source of sepsis <p><input type="checkbox"/> Tobramycin _____ mg IV x 1 dose STAT (Usual 6 mg/kg for single dose)</p> <p><input checked="" type="checkbox"/> Contact pharmacist for subsequent doses</p> <ul style="list-style-type: none"> • Add Vancomycin if patient is known to be MRSA positive OR soft tissue infection OR nosocomial pneumonia OR catheter related septic shock: <p><input type="checkbox"/> Vancomycin _____ g IV Q _____ H x _____ dose(s), then reassess. Give first dose now. Usual dose and frequency for patient weight and creatinine clearance: For less than 76 kg: 1 g IV For 76 - 90 kg: 1.25 g IV For greater than 90 kg: 1.5 g IV For CrCl greater than 60 mL/min: Q12H x 3 doses For CrCl less than or equal to 60 mL/min: Q24H x 1 dose</p> <p><input checked="" type="checkbox"/> Contact pharmacist for subsequent doses</p> <p>For patients with intraabdominal infections, Urinary tract infections (UTI's), central line infections, or infection with no obvious clinical source at high risk for yeast-associated septic shock (i.e. multiple candida isolates, prolonged multiple antibiotics, greater than 7 days in ICU or with central venous catheter, TPN, hemodialysis, organ transplantation, neutropenia and/or hematologic malignancy) add:</p> <p><input type="checkbox"/> Fluconazole 400 mg IV single dose OR</p> <p><input type="checkbox"/> Amphotericin B _____ mg IV single dose (Usual dose: 0.5 mg/kg IV single dose)</p> <p><input checked="" type="checkbox"/> Contact pharmacist for subsequent doses</p> <p>If Systolic BP (SBP) less than _____ or Mean Arterial Pressure (MAP) less than _____, start fluid therapy (see next column) and consider in order to achieve a Mean Arterial Pressure of _____:</p> <p><input type="checkbox"/> Norepinephrine 0.01 mcg/kg/min (normal maximum dose 0.2 mcg/kg/min) PREFERRED OR</p> <p><input type="checkbox"/> DOPamine 5 mcg/kg/min IV (normal maximum dose 20 mcg/kg/min)</p>	<p align="center">GENERAL ORDERS</p> <p>MD: has completed back of form to diagnose Septic Shock</p> <p>CLERKS: NOTIFY NURSE OF STAT ORDERS and fax to pharmacy</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> For patients on Tobramycin, Tobramycin level at 24 hours post dose <input checked="" type="checkbox"/> For patients on Vancomycin, Vancomycin level pre third dose <p>NURSES:</p> <p>Fluid Therapy:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> IV infusion: <input type="checkbox"/> NS _____ mL/hr OR <input type="checkbox"/> Ringers _____ mL/hr <input checked="" type="checkbox"/> If SBP less than or equal to _____ mmHg or MAP less than or equal to _____, have MD reassess IV fluid orders related to patient response <p>Give IV fluid bolus under pressure</p> <p><input type="checkbox"/> NS <input type="checkbox"/> 500 mL OR <input type="checkbox"/> Ringers <input type="checkbox"/> 500 mL <input type="checkbox"/> 1000 mL <input type="checkbox"/> 1000 mL Repeat x _____ Repeat x _____</p> <p>Patients in Septic Shock will often require 6 L (or more) of crystalloid</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Apply oxygen by face mask, titrated for saturation of 98% or greater <input checked="" type="checkbox"/> Blood cultures stat <input checked="" type="checkbox"/> Sputum/ETT secretions for C & S <input checked="" type="checkbox"/> Urine for urinalysis/Culture and Sensitivity <input type="checkbox"/> Site cultures now (specify sites) include all pre-existing lines, catheters <p>Note - Antibiotics must be infusing within 30 minutes of order. Attempt to collect cultures, but do not allow to delay antibiotics beyond 30 minutes.</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Continuously monitor ECG, oxygen saturation and monitor blood pressure at least Q5 minutes until arterial line placed. Record vital signs Q15 minutes until goals met, then at least hourly and with any change <input checked="" type="checkbox"/> Document Height and Weight <input checked="" type="checkbox"/> Insert foley with urometer <input checked="" type="checkbox"/> Hourly intake and output <input checked="" type="checkbox"/> Chest X-ray <input checked="" type="checkbox"/> 12 lead ECG <input checked="" type="checkbox"/> Stat Lab: CBC, INR, PTT, Sodium, Potassium, Chloride, Magnesium, Urea, Creatinine, Blood Sugar, AST, LDH, ALT, Alkaline Phosphatase, CK, Lactate, TCO₂, albumin, calcium, phosphate <input checked="" type="checkbox"/> Repeat lactate in two hours with ABG <input checked="" type="checkbox"/> Type and Screen <input checked="" type="checkbox"/> ABG with Hgb <p>If central line in place, measure CVP (goal 8 - 12 mmHg):</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Draw a Central Venous blood gas and notify MD of results <p><input type="checkbox"/> ORDERS FAXED TO PHARMACY</p> <p>Transcribed by: _____</p> <p>Date: <table border="1" style="display: inline-table; border-collapse: collapse;"><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td>D</td><td>D</td><td>M</td><td>M</td><td>M</td><td>Y</td><td>Y</td><td>Y</td></tr></table> Time: <table border="1" style="display: inline-table; border-collapse: collapse;"><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td colspan="6">24 HOUR</td></tr></table></p>									D	D	M	M	M	Y	Y	Y							24 HOUR					
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24 HOUR																													

Physician Signature: _____

Print Name: _____

Date:

D	D	M	M	M	Y	Y	Y

Time:

24 HOUR					